

CLAIMS

(without amendment)

1-70. (canceled)

71. (previously presented): A method to deliver a drug which is an anti-inflammatory, an antineoplastic agent, a hormone, a mitotic inhibitor, an antirheumatic, a neuromuscular blocker, a sedative, an antiallergic drug, a hormone, an anti-helminthic, an antimalarial, an antituberculosis drug, an immune serum, an antitoxin, an antivenom, a rabies prophylaxis product, a bacterial vaccine, or a viral vaccine to a target tissue or organ, which method comprises

administering to a subject containing said tissue or organ a composition of nanoparticles, said nanoparticles comprising a core consisting of liquid fluorocarbon coated with a lipid/surfactant layer,

wherein said coated particles are coupled to a targeting ligand that binds to a moiety on or in said tissue or organ; and

wherein said drug is confined to said layer and not carried or deposited in the core of said nanoparticle by preparing said nanoparticles by a process that consists essentially of:

(a) mixing the drug with the components of the lipid/surfactant layer in a solvent or mixture of solvents;

(b) evaporating the solvent or mixture to obtain a film;

(c) dispersing the film into water;

(d) adding the perfluorocarbon; and

(e) emulsifying the dispersion to form said nanoparticles; and

wherein said targeting ligand effects prolonged contact between the lipid bilayer of cells of said tissue or organ with the lipid/surfactant layer of said coated particles such that delivery of the drug to the tissue or organ is facilitated.

72-74. (canceled)

75. (previously presented): The method of claim 71, wherein said targeting ligand is selected from the group consisting of antibodies, antibody fragments, peptides, asialoglycoproteins, polysaccharides, aptamers, nucleic acids, peptidomimetics, and drugs.

76. (previously presented): The method of claim 75, wherein said targeting ligand is an antibody.

77. (previously presented): The method of claim 71, wherein said fluorocarbon is perfluorooctylbromide.

78. (previously presented): The method of claim 71, wherein said fluorocarbon is a liquid with a boiling point above 30°C.

79. (previously presented): The method of claim 78, wherein said fluorocarbon liquid has a boiling point above 90°C.

80-81. (canceled)

82. (previously presented): The method of claim 71, wherein said lipid/surfactant layer is composed of a material selected from the group consisting of a natural or synthetic phospholipid, a fatty acid, cholesterol, lysolipid, sphingomyelin, tocopherol, glucolipid, stearylamine, cardiolipin, a lipid with ether or ester linked fatty acids and a polymerized lipid.

83-84. (canceled)

85. (previously presented): The method of claim 71, wherein said coated nanoparticles have a diameter in the range of 0.01 to 10 microns.

86. (previously presented): The method of claim 85, wherein said coated nanoparticles have a diameter in the range of approximately 0.1 to 0.5 microns.

87-93. (canceled)

94. (previously presented): The method of claim 71 wherein the drug is an antineoplastic agent, a mitotic inhibitor, a hormone, or an anti-inflammatory.

95. (previously presented): The method of claim 71 wherein the drug is a taxane or rapamycin.

96. (previously presented): The method of claim 95 wherein the drug is paclitaxel.

97. (previously presented): The method of claim 94 wherein the drug is doxorubicin.